

GENERIC · POWERTRAIN

P20D9

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P20D9

Exhaust Aftertreatment Fuel Supply Control Circuit Low

P20D9 indicates that the powertrain control module has detected a low-voltage condition on the electrical circuit that supplies fuel to the exhaust aftertreatment system, which is typically the diesel exhaust fluid or hydrocarbon dosing circuit. The computer monitors the control circuit for expected voltage and sets this code when the signal falls below the calibrated threshold, pointing to a short to ground, an open circuit, or a failed component on that supply path.

SYSTEM

Powertrain

CODE TYPE

Generic (all makes)

SEVERITY

Medium

FIX DIFFICULTY

Intermediate

AREA

Fuel and air metering and auxiliary emission controls

Symptoms you may notice

- Illumination of the check engine light, often with no other noticeable symptoms
- Reduced engine power or limp mode if the aftertreatment system enters protection strategy
- A message on the dash indicating exhaust fluid or emissions system service required
- Increased fuel consumption as the system attempts to compensate or defaults to a safe strategy
- Possible rough running or hesitation if the dosing injector is commanded off and regeneration is inhibited
- Often no symptoms besides the warning light, especially in early stages of the fault

Common causes, most likely first

- 1 Chafed or broken wiring in the fuel supply control circuit, commonly at connectors or near hot exhaust components
- 2 Corroded or loose electrical connector at the dosing injector or supply pump
- 3 Failed fuel supply control solenoid or dosing injector with an internal short to ground
- 4 Open circuit inside the supply pump motor winding or control module driver failure
- 5 Blown fuse or faulty relay that feeds the aftertreatment fuel supply circuit
- 6 Water intrusion or contamination in the connector causing low voltage on the control line
- 7 Poor ground connection for the aftertreatment fuel supply system



How to diagnose and fix it

- 1 Scan all modules for stored codes and freeze-frame data to confirm P20D9 is active and not a history code
- 2 Visually inspect the fuel supply control circuit wiring and connectors for damage, corrosion, or loose pins
- 3 Check the fuse and relay that supply power to the aftertreatment fuel supply pump or dosing injector
- 4 Measure voltage on the control circuit at the component connector with the key on and during an active command, comparing to specification
- 5 Perform a resistance and short-to-ground test on the control wire from the powertrain control module to the component
- 6 Command the fuel supply pump or dosing injector with a scan tool and observe circuit voltage and current to isolate an internal component fault
- 7 Repair or replace the faulty wiring, connector, or component, then clear codes and verify the circuit operates within range during a road test

What the low circuit code really means

- A low circuit code does not automatically mean the supply pump or injector has failed; a simple chafed wire or corroded pin can pull the control voltage down and set the same fault.
- Technicians often overlook the ground side of the circuit, and a poor ground can mimic a low control signal even when the power and control wires test good.
- Aftertreatment fuel supply systems on some vehicles share power with other emissions components, so a blown fuse may disable more than one circuit and set additional codes.
- The code can be set intermittently by vibration or heat, so a wiggle test of the harness while monitoring live data is more reliable than a static resistance check alone.
- Replacing the dosing injector without first checking circuit voltage under load is a common misdiagnosis that leads to repeat failures and unnecessary expense.

Can I keep driving with P20D9?

You can usually drive the vehicle to a repair shop, but avoid heavy loads and long trips because the aftertreatment system may be disabled and regeneration cannot occur. If the engine enters limp mode or you notice excessive exhaust smoke, stop driving and have the circuit inspected promptly.

Tools that help

- OBD-II scan tool with bidirectional control and live data capability
- Digital multimeter with voltage, resistance, and current measuring functions
- Wiring diagram and connector pinout for the aftertreatment fuel supply circuit
- Test light or load probe for checking circuit integrity under load
- Hand tools for connector and harness inspection



Reading P20D9

- P** Powertrain: engine, transmission and emissions.
- 2** Generic (SAE) code: it means the same thing on every OBD-II vehicle.
- 0** Fuel and air metering and auxiliary emission controls.
- D9** The exact fault within that area.

Often seen with

P20D8 Exhaust Aftertreatment Fuel Supply Control Performance · **P20DA** Exhaust Aftertreatment Fuel Supply Control Circuit High · **P20DB** Exhaust Aftertreatment Fuel Supply Control Stuck Open · **P20DC** Exhaust Aftertreatment Fuel Supply Control Stuck Closed · **P20E8** Reductant Pressure Too Low

See it working

Watch the animated explainer [How Regenerative Braking Works in Electric Cars](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p20d9/>

